BIOCHEMICAL PHARMACOLOGY

AN INTERNATIONAL JOURNAL

VOLUME 49, 1995

VOLUME CONTENTS AND AUTHOR INDEX

PERGAMON

BIOCHEMICAL PHARMACOLOGY

REGIONAL EDITORS:

American Continent

Prof. Alan C. Sartorelli
(Executive Editor)
Yale University School of Medicine
Department of Pharmacology
Sterling Hall of Medicine, 333 Cedar Street
PO Box 208066, New Haven, CT 06520-8066, U.S.A.

European Continent

Prof. Jacques E. Gielen
Université de Liège
Laboratoire de Chimie Medicale
Centre Hospitalier Universitaire
B-4000, Sart-Tilman par Liège 1
Belgium

ASSOCIATE EDITORS:

Chemotherapy

Prof. Yung-Chi Cheng
Yale University School of Medicine
Department of Pharmacology
Sterling Hall of Medicine
333 Cedar Street, PO Box 208066
New Haven, CT 06520-8066, U.S.A.

Endocrinology

Prof. Priscilla S. Dannies
Yale University School of Medicine
Department of Pharmacology
Sterling Hall of Medicine
333 Cedar Street, PO Box 208066
New Haven, CT 06520-8066, U.S.A.

Drug Metabolism

Dr. Tetsuya Kamataki
Division of Drug Metabolism
Faculty of Pharmaceutical Sciences
Hokkaido University
N12 W6, Sapporo
Hokkaido, 060 Japan

Genetics

Prof. Daniel W. Nebert
Department of Environmental
Health, University of Cincinnati
Medical Center, Kettering
Laboratory, 3223 Eden Avenue
Cincinnati, OH 45267-0056, U.S.A.

Immunopharmacology

Prof. Martin K. Church
Department of
Clinical Pharmacology
Centre Block, Southampton
General Hospital
Southampton SO9 4XY, U.K.

Neurobiology

Prof. Gustave Moonen
Service de Physiologie humaine
et de Physiopathologie
Institut Léon Frédèricq
Place Delcour
17 Bat L1, 4020 Liège, Belgium

Neuroscience

Prof. Robert H. Roth
Yale University School of Medicine
Department of Pharmacology
Sterling Hall of Medicine
333 Cedar Street, PO Box 208066
New Haven, CT 06520-8066, U.S.A.

Commentaries Editor

Prof. Harold R. Behrman
Yale University School of Medicine
Departments of Obstetrics,
Gynecology & Pharmacology
Sterling Hall of Medicine
333 Cedar Street, PO Box 208063
New Haven, CT 06520-8063, U.S.A.

Production Editor (Elsevier Science): Gabriele Smith

Managing Editor: Dr. Kim C. Healy, Yale University School of Medicine, Department of Pharmacology, 47 College Street, Suite 227, New Haven, CT 06510-3209, U.S.A.

Publishing and Advertising Offices: Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB (01865 843000), and 660 White Plains Road, Tarrytown, NY 10591-5153. Published semi-monthly. Annual Institutional Subscription Rates 1995: North, Central and South America, U.S.$2966, Rest of the World £1990. Associated Personal Subscription Rates are available on request for those whose institutions are library subscribers. Sterling prices exclude VAT. Non-VAT registered customers in the European Community will be charged the appropriate VAT in addition to the price listed. Prices include postage and insurance and are subject to change without notice. Subscription enquiries from customers in North America should be sent to: Elsevier Science Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, U.S.A., and from the remainder of the world to: Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, U.K.

Whilst every effort is made by the publishers and editorial board to see that no inaccurate or misleading data, opinion or statement appears in this journal, they wish to make it clear that the data and opinions appearing in the articles and advertisements herein are the sole responsibility of the contributor or advertiser concerned. Accordingly, the publishers, the editorial board and editors and their respective employees, officers and agents accept no responsibility or liability whatsoever for the consequences of any such inaccurate or misleading data, opinion or statement.

Second Class Postage paid at Newark, NJ and additional mailing offices. Postmaster send address corrections to Elsevier Science Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, U.S.A.

Copyright © 1995 Elsevier Science Ltd

EDITORIAL ADVISORY BOARD

American Continent

JULIUS AXELROD—National Institutes of Health, Bethesda, MD
MICHAEL R. BOYD—LDDRD, Developmental Therapeutics Program, National Cancer Institute, Frederick, MD
EDWARD BRESNICK—University of Massachusetts Medical Centre, 55 Lake Avenue North, Worcester, MA
D. N. BRINDLEY—Faculty of Medicine, University of Alberta, Edmonton, Canada
MICHAEL J. BROWNSTEIN—National Institutes of Health, Bethesda, MD
JACK R. COOPER—Yale University School of Medicine, New Haven, CT
JAMES K. COWARD—College of Pharmacy, University of Michigan, Ann Arbor, MI
IAN CREESE—Center for Molecular and Behavioral Neuroscience, Aidekman Research Center, Newark, NJ
JOHN W. DALY—National Institutes of Health, Bethesda, MD
ERWIN G. ERDÖS—Department of Pharmacology, University of Illinois, College of Medicine, Chicago, IL
MARIA ERECINSKA—University of Pennsylvania, Philadelphia, PA
RAY W. FULLER—Lilly Research Laboratories, Indianapolis, IN
ROBERT C. GALLO—National Institutes of Health, Bethesda, MD
JAMES R. GILLETTE—National Institutes of Health, Bethesda, MD
ROBERT I. GLAZER—Georgetown University, Washington, DC
I. DAVID GOLDMAN—Medical College of Virginia, Richmond, VA
THEODORE E. GRAM—1036 Welsh Drive, Rockville, MD
M. R. HANLEY—School of Medicine, University of California, Davis, CA
G. H. HITCHINGS—1 Carolina Meadows 102, Chapel Hill, NC
LOUIS J. IGNARRO—UCLA School of Medicine, Department of Pharmacology, Los Angeles, CA
WILLIAM B. JAKOBY—National Institutes of Health, Bethesda, MD
DAVID G. JOHNS—National Institutes of Health, Bethesda, MD
HAROLD KALANT—University of Toronto, School of Medicine, Toronto, Ontario, Canada
YUTAKA KOBAYASHI—Ko-By Associates, 60 Audubon Road, Wellesley, MA
WALTER M. LOVENBERG—Marion Merrell Dow Research Institute, Cincinnati, OH
P. N. MAGEE—Thomas Jefferson University, Cancer Institute, Philadelphia, PA
G. J. MANNERING—Department of Food Science and Nutrition, University of Minnesota, St. Paul, MN
TAG E. MANSOUR—Department of Pharmacology, Stanford University Medical Center, Stanford, CA
PAUL B. MCCAY—Oklahoma Medical Research Foundation, Oklahoma City, OK
HERBERT Y. MELTZER—Case Western Reserve University, Cleveland, OH
ESTEBAN MEZEY—Johns Hopkins University School of Medicine, Baltimore, MD
DANIEL W. NEBERT—Department of Environmental Health, University of Cincinnati, Cincinnati, OH
CHARLES A. NICHOL—Cannam Enterprises, 1508 Ward Street, Durham, NC
ROBERT E. PARKS, JR—Brown University, Providence, RI
GABRIEL L. PLAA—University of Montreal, Quebec, Canada
EUGENE ROBERTS—City of Hope Medical Center, Duarte, CA
JEROME A. ROTH—State University of New York, Medical Center, Buffalo, NY
CHARLES O. RUTLEDGE—School of Pharmacy, Purdue University, West Lafayette, IN
BORIS TABAKOFF—University of Colorado School of Medicine, Denver, CO
JOHN F. TALLMAN—Neurogen, 35 Northeast Industrial Road, Branford, CT
SNORRI SV. THORGEIRSSON—National Institutes of Health, Bethesda, MD
MARTHA VAUGHAN—National Institutes of Health, Bethesda, MD
NORMAN WEINER—University of Colorado Health Sciences Center, Denver, CO
ARNOLD D. WELCH (Chairman)—Frederick Cancer Research Facility of National Cancer Institute, Frederick, MD
JOHN R. WILLIAMSON—University of Pennsylvania, Philadelphia, PA

European Continent

F. M. BELPAIRE—J. F. and C. Heymans Institute of Pharmacology, Rijksuniversity, Ghent, Belgium
A. G. H. BLAKELEY—Department of Physiology, The University, Leicester, U.K.
K. W. BOCK—Institute of Toxicology, Tübingen University, Germany
J. CALDWELL—St. Mary's Hospital Medical School, London, U.K.
R. A. J. CHALLISS—Department of Pharmacology, University of Leicester, Leicester, U.K.
T. A. CONNORS—Institute of Cancer Research, Sutton, Surrey, U.K.
E. DE CLERCQ—Rega Institute for Medical Research, University of Leuven, Belgium
J. FRERE—Institute de Chimie, Université de Liège, Liège, Belgium
T. GODFRAIND—Université Catholique de Louvain, Laboratoire de Pharmacologie, Bruxelles, Belgium
R. J. GRYGLEWSKI—School of Medicine, Cracow, Poland
J. HAMON—INSERM U288, Neurobiol Cellulaire et Fonctionnelle, Faculté de Medecine Pitie-Salpetriere, 91 Blvd de l'Hôpital, F-75634 Paris Cèdex 14, France
J. HANOUNE—INSERM U99, Hôpital Henri Mondor, Creteil, France
J. A. HICKMAN—Department of Physiological Sciences, University of Manchester, Manchester, U.K.
I. JANKŮ—Academy of Sciences of the Czech Republic, Institute of Pharmacology, Videnska 1083, CZ-14220 Praha 4 KRC, Czech Republic
P. JENNER—Department of Pharmacology, King's College, London SW5 8AF, U.K.
H. KAPPUS—Freie Universität Berlin, Germany
J. LUNDBERG—Department of Pharmacology, Karolinska Institute, Stockholm, Sweden
G. P. MANNAERTS—Dienst Farmakoligie, Campus Gasthuisberg, Onderwijs en Navorsing, Herestraat, 3000 Leuven, Belgium
D. MANSUY—Université René Descartes, Laboratoire de Chimie et de Biochemie, Pharmacologiques et Toxicologiques, 45 rue des Saints-Pères, 75270 Paris Cédex 05, France
A. E. M. MCLEAN—Department of Clinical Pharmacology, University College Hospital Medical School, London, U.K.
C. J. MEADE—Department of Pharmacology, Boehringer Ingelheim KG, 55216 Ingelheim am Rhein, Germany
G. MILLIGAN—Department of Biochemistry, University of Glasgow, Glasgow, U.K.
P. MOLDEUS—Department of Toxicology, Karolinska Institute, 104 01 Stockholm 60, Sweden
G. J. MULDER—Department of Toxicology, University of Leiden, Sylvius Laboratories, P.O. Box 9503, 2300 RA Leiden, The Netherlands
K. J. NETTER—Department of Pharmacology and Toxicology, Philipps University, Marburg, Germany
H. NOHL—Institute of Pharmacology and Toxicology, University of Vienna, Vienna, Austria
A. J. PAINE—St Bartholomew's Hospital Medical School, London, U.K.
B. K. PARK—Department of Pharmacology and Therapeutics, University of Liverpool, Liverpool, U.K.
E. REID—Guildford Academic Associates, Guildford, Surrey, U.K.
E. REINER—Yugoslav Academy of Sciences and Arts, 4100 Zagreb, Croatia
A. G. RENWICK—University of Southampton, Faculty of Medicine, Southampton, U.K.
P. J. ROBERTS—Department of Pharmacology, University of Bristol, Bristol, U.K.
M. SANDLER—Bernhard Baron Memorial Research Laboratories, Queen Charlotte's Maternity Hospital, London, U.K.
H. SIES—Institut für Physiologische Chemie 1, Universität Düsseldorf, Düsseldorf, Germany
J. SKODA—Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague, Czech Republic
LEWIS L. SMITH—MRC Toxicology Unit, University of Leicester, PO Box 138, Leicester Road, Leicester, U.K.
B. TESTA—Department of Pharmacy, University of Lausanne, Lausanne, Switzerland
K. TIPTON—Department of Biochemistry, University of Dublin, Trinity College, Ireland
V. ULLRICH—Fakultät für Biologie, Universität Konstanz, Konstanz, Germany
D. C. U'PRICHARD—ICI Pharmaceuticals, Research II Dept, Mereside Alderley Park, Macclesfield, Cheshire, U.K.
P. WALDMEIER—Ciba-Geigy Limited, CH-4002 Basle, Switzerland
M. B. H. YOUDIM—Technion-Israel Institute of Technology, Faculty of Medicine, Department of Pharmacology, Bat Galim, Haifa, Israel

Asia and Pacific Rim

YOUNG-NAM CHA—Inha University, Inchon, Korea
K. KURIYAMA—Kyoto Prefectural University of Medicine, Kyoto, Japan
T. WATABE—Tokyo College of Pharmacy, Tokyo, Japan

CONTENTS OF VOLUME 49

6 JANUARY 1995

Commentary

EUGENE ROBERTS — 1 Pregnenolone—from Selye to Alzheimer and a model of the pregnenolone sulfate binding site on the $GABA_A$ receptor

Research Papers

VINCENT J. ALOYO — 17 Modulation of mu opioid binding by protein kinase inhibitors

SUSAN KENNEY, DAVID T. VISTICA, HEDDA LINDEN and MICHAEL R. BOYD — 23 Uptake and cytotoxicity of 9-methoxy-N^2-methyl-ellipticinium acetate in human brain and non-brain tumor cell lines

ELLEN BRETSCHNEIDER, MANFRED PAINTZ and ERIKA GLUSA — 33 Involvement of inositol 1,4,5-triphosphate and protein kinase C in thrombin-induced contraction of porcine pulmonary artery

ROBERT J. EDWARDS, ALISON M. SINGLETON, BERNARD P. MURRAY, DONALD S. DAVIES and ALAN R. BOOBIS — 39 Short synthetic peptides exploited for reliable and specific targeting of antibodies to the C-termini of cytochrome P450 enzymes

ELISABET H. STET, RONNEY A. DE ABREU, JOS P. M. BÖKKERINK, LAMBERT H. J. LAMBOOY, TRUDE M. VOGELS-MENTINK, JENNEKE J. KEIZER-GARRITSEN and FRANS J. M. TRIJBELS — 49 Reversal of methylmercaptopurine ribonucleoside cytotoxicity by purine ribonucleosides and adenine

ETIENNE P. A. NEVE, C. SCOTT BOYER and PETER MOLDÉUS — 57 *N*-Ethyl maleimide stimulates arachidonic acid release through activation of the signal-responsive phospholipase A_2 in endothelial cells

GÁBOR BÁNHEGYI, ISTVÁN MUCHA, TAMÁS GARZÓ, FERENC ANTONI and JÓZSEF MANDL — 65 Endotoxin inhibits glucuronidation in the liver. An effect mediated by intercellular communication

STEPHEN C. BONDY and SHIRLEY X. GUO — 69 Regional selectivity in ethanol-induced pro-oxidant events within the brain

CAROL A. GALLAGHER, LINDSAY B. HOUGH, SANDRA M. KEEFNER, AHMAD SEYED-MOZAFFARI, SYDNEY ARCHER and STANLEY D. GLICK — 73 Identification and quantification of the indole alkaloid ibogaine in biological samples by gas chromatography–mass spectrometry

DIANE M. P. LAWRENCE, DAVID B. JOSEPH and JEAN M. BIDLACK — 81 Kappa opioid receptors expressed on three related thymoma cell lines. Differences in receptor–effector coupling

FRANK J. BURCZYNSKI, GU-QI WANG and MARK HNATOWICH — 91 — Effect of nitric oxide on albumin–palmitate binding

MICHELLE A. CLARK, BETTYE A. BING, PAUL E. GOTTSCHALL and JOSEPH F. WILLIAMS — 97 — Differential effect of cytokines on the phenobarbital or 3-methylcholanthrene induction of P450 mediated monooxygenase activity in cultured rat hepatocytes

ZAO-YUAN PENG, JOAN M. MANSOUR, FAUSTO ARAUJO, JING-YUE JU, CHARLES E. MCKENNA and TAG E. MANSOUR — 105 — Some phosphonic acid analogs as inhibitors of pyrophosphate-dependent phosphofructokinase, a novel target in *Toxoplasma gondii*

Short Communications

PHILIP R. MAYEUX, HOLLYE R. GARNER, JENNIFER D. GIBSON and VICTOR C. BEANUM — 115 — Effect of lipopolysaccharide on nitric oxide synthase activity in rat proximal tubules

KEITH H. BYINGTON — 119 — Inhibition of adenylyl cyclase in rat striatal homogenates by combinations of dopamine and ferric iron compounds

Announcements — 123

Additions and Corrections — 125

18 JANUARY 1995

Commentary

ENRIQUE CADENAS — 127 — Antioxidant and prooxidant functions of DT-diaphorase in quinone metabolism

Rapid Communication

NAOYOSHI OGAWA, TAKUYA HIROSE, KIYOMI FUKUSHIMA, TOSHIO SUWA and TETSUO SATOH — 141 — GSH-independent denitration of the nitrate ester of a dihydropyridine derivative in rabbit hepatic cytosol

Research Papers

ARNO NAGELE — 147 — Unimpaired metabolism of pyridine dinucleotides and adenylates in Chinese hamster ovary cells during oxidative stress elicited by cytotoxic doses of copper-putrescine-pyridine

BRUCE W. HART and MORRIS D. FAIMAN — 157 — Inhibition of rat liver low K_m aldehyde dehydrogenase by thiocarbamate herbicides. Occupational implications

HIDEKI OHNOTA, MIHO KOBAYASHI, TAKASHI KOIZUMI, KENJI KATSUNO, FUMIYASU SATO and TORU AIZAWA — 165 — *In vitro* insulinotropic action of a new non-sulfonylurea hypoglycemic agent, calcium (2*S*)-2-benzyl-3-(*cis*-hexahydro-2-isoindolinyl-carbonyl) propionate dihydrate (KAD-1229), in rat pancreatic B-cells

HARRY FORD JR, JOHN S. DRISCOLL, ZHANG HAO, KATHERINE A. DOBYNS, MICHAEL E. ROMMEL, EMILY STOWE, JOSEPH O. ANDERSON, JACQUELINE PLOWMAN, WILLIAM R. WAUD, DAVID G. JOHNS and DAVID A. COONEY — 173 — Reversal by cytidine of cyclopentenyl cytosine-induced toxicity in mice without compromise of antitumor activity

LEONARD J. SHORE, GERARD B. ODELL and CATHERINE FENSELAU — 181 — Identification of an N-acetylated microsomal glutathione *S*-transferase by mass spectrometry

IAN F. MUSGRAVE and ROLAND SEIFERT — 187 — α_{2A}-Adrenoceptors mediate activation of non-selective cation channels via G_i-proteins in human erythroleukaemia (HEL) cells. No evidence for a functional role of imidazoline receptors in modulating calcium

PAUL A. JEAN, MARC B. BAILIE and ROBERT A. ROTH — 197 — 1-Naphthylisothiocyanate-induced elevation of biliary glutathione

RICHARD L. CYSYK, NANCY MALINOWSKI, VICTOR MARQUEZ, DANIEL ZAHAREVITZ, E. MICHAEL AUGUST and JAMES D. MOYER — 203 Cyclopentenyl uracil: an effective inhibitor of uridine salvage *in vivo*

ADRIENNE M. WILLIAMS, SIMON WORRALL, JOHN DE JERSEY and RONALD G. DICKINSON — 209 Studies on the reactivity of acyl glucuronides—VIII. Generation of an antiserum for the detection of diflunisal-modified proteins in diflunisal-dosed rats

MARIA T. RUNNEGAR, SHOU-MING KONG, YA-ZHEN ZHONG and SHELLY C. LU — 219 Inhibition of reduced glutathione synthesis by cyanobacterial alkaloid cylindrospermopsin in cultured rat hepatocytes

ELIZABETH PINTADO, DOMINGO BAQUERO-LEONIS, MANUEL CONDE and FRANCISCO SOBRINO — 227 Effect of thimerosal and other sulfhydryl reagents on calcium permeability in thymus lymphocytes

ROBERTO TOLANDO, STEFANO CAZZARO, ROBERTA FERRARA, MICHELA REZZADORE and MAURIZIO MANNO — 233 Reductive activation of halothane by human haemoglobin results in the modification of the prosthetic haem

E. THOMAS, J. L. LEROUX, F. BLOTMAN, B. DESCOMPS and C. CHAVIS — 243 Enhancement of leukotriene A_4 biosynthesis in neutrophils from patients with rheumatoid arthritis after a single glucocorticoid dose

ESSAM ENAN and FUMIO MATSUMURA — 249 Evidence for a second pathway in the action mechanism of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD). Significance of Ah-receptor mediated activation of protein kinase under cell-free conditions

Short Communication

ANJANEYULU KOWLURU, SCOTT E. SEAVEY, MARY E. RABAGLIA and STEWART A. METZ — 263 Non-specific stimulatory effects of mastoparan on pancreatic islet nucleoside diphosphokinase activity: dissociation from insulin secretion

31 JANUARY 1995

Commentary

TREVOR J. FRANKLIN — 267 Current approaches to the therapy of fibrotic diseases

Rapid Communication

KANG-SHEN YAO and PETER J. O'DWYER — 275 Involvement of NF-κB in the induction of NAD(P)H: quinone oxidoreductase (DT-diaphorase) by hypoxia, oltipraz and mitomycin C

Research Papers

JOSÉ L. REYES, M. ELISABETH HERNÁNDEZ, ESTELA MELÉNDEZ and CARLOS GÓMEZ-LOJERO — 283 Inhibitory effect of the antioxidant ethoxyquin on electron transport in the mitochondrial respiratory chain

JOSEPH L. BALWIERCZAK, PAIVI J. KUKKOLA, PAULA SAVAGE and ARCO Y. JENG — 291 Effects of metalloprotease inhibitors on smooth muscle endothelin-converting enzyme activity

GERD JÜRGEN ENDERLE, URSULA DELABAR and HERBERT KRELL — 297 Different pathomechanisms of altered biliary leukotriene C_4 elimination in isolated perfused rat livers

YOUSSEF BENCHOKROUN, JEANNINE COUPRIE and ANNETTE KRAGH LARSEN — 305 Aurintricarboxylic acid, a putative inhibitor of apoptosis, is a potent inhibitor of DNA topoisomerase II *in vitro* and in Chinese hamster fibrosarcoma cells

LUAY Y. AL-ESSA, MASAYUKI NIWA, KEN-ICHI KOHNO, MASAKATSU NOZAKI and KAITO TSURUMI — 315 Heterogeneity of circulating and exudated polymorphonuclear leukocytes in superoxide-generating response to cyclic AMP and cyclic AMP-elevating agents. Investigation of the underlying mechanism

SUSAN K. HEMRICK-LUECKE and RAY W. FULLER — 323 Decreased hypothalamic epinephrine concentration by quipazine and other serotonin agonists in rats

CÉCILE LUNEL-ORSINI, GÉRARD BUTTIN and BRUNO ROBERT DE SAINT VINCENT — 329 A glutathione depletion selectively imposed on μglutathione *S*-transferase overproducing cells increases nitrogen mustard toxicity

CEN XU, LORI L. COFFEY and MAARTEN E. A. REITH — 339 Translocation of dopamine and binding of 2 β-carbomethoxy-3 β-(4-fluorophenyl) tropane (WIN 35,428) measured under identical conditions in rat striatal synaptosomal preparations. Inhibition by various blockers

CORINNE CHARLIER, ALAIN CHARIOT, NADINE ANTOINE, MARIE-PAULE MERVILLE, JACQUES GIELEN and VINCENT CASTRONOVO — 351 Tamoxifen and its active metabolite inhibit growth of estrogen receptor-negative MDA-MB-435 cells

INGE JEDING, PATRICIA J. EVANS, DOLA AKANMU, DAVID DEXTER, JEREMY D. SPENCER, OKEZIE I. ARUOMA, PETER JENNER and BARRY HALLIWELL — 359 Characterization of the potential antioxidant and pro-oxidant actions of some neuroleptic drugs

A. RICHTER, D. E. DAVIES and P. ALEXANDER — 367 Growth inhibitory effects of FK506 and cyclosporin A independent of inhibition of calcineurin

ROGER CORDER and JOHN R. VANE — 375 Radioimmunoassay evidence that the pressor effect of big endothelin-1 is due to local conversion to endothelin-1

JEFFREY E. FLETCHER, MING-SHI JIANG and JOHN L. MIDDLEBROOK — 381 Antibodies having markedly different effects on enzymatic activity and induction of acetylcholine release by two presynaptically-acting phospholipase A_2 neurotoxins

MICHAIL I. DUSHKIN and YAKOV SH. SCHWARTZ — 389 Effect of verapamil and nifedipine on cholesteryl ester metabolism and low-density lipoprotein oxidation in macrophages

VALÉRIE PETEGNIEF, PIERRE-LOUIS LLEU, RAMESH C. GUPTA, JEAN-JACQUES BOURGUIGNON and GÉRARD REBEL — 399 Taurine analog modulation of taurine uptake by two different mechanisms in cultured glial cells

Short Communications

DOUGLAS W. HOFFMAN, PHILIP WIEBKIN and LEONARD P. RYBAK — 411 Inhibition of glutathione-related enzymes and cytotoxicity of ethacrynic acid and cyclosporine

GEOFFREY A. LYLES and JANETTE CHALMERS — 416 Aminoacetone metabolism by semicarbazide-sensitive amine oxidase in rat aorta

14 FEBRUARY 1995

Commentary

EDMUND MASER — 421 Xenobiotic carbonyl reduction and physiological steroid oxidoreduction. The pluripotency of several hydroxysteroid dehydrogenases

Research Papers

ELIZABETH J. KELSO, BARBARA J. M^{c}DERMOTT and BERNARD SILKE — 441 Differential effects of phosphodiesterase inhibitors on accumulation of cyclic AMP in isolated ventricular cardiomyocytes

BANG QIAN XU, TOR A. AASMUNDSTAD, ANDERS BJØRNEBOE, ASBJØRG S. CHRISTOPHERSEN and JØRG MØRLAND — 453 Ethylmorphine O-deethylation in isolated rat hepatocytes. Involvement of codeine O-demethylation enzyme systems

PIER ANDREA BOREA, ALESSANDRO DALPIAZ, KATIA VARANI, LAURA GUERRA and GASTONE GILLI — 461 Binding thermodynamics of adenosine A_{2a} receptor ligands

JAN CORNELISSEN, RONALD J. A. WANDERS, ALBERT H. VAN GENNIP, COBY VAN DEN BOGERT, P. A. VOÛTE and ANDRÉ B. P. VAN KUILENBURG — 471 *Meta*-iodobenzylguanidine inhibits complex I and III of the respiratory chain in the human cell line Molt-4

UWE WENZEL, KARIN JOUVENAL, DIDIER TRIPIER and KORNELIA ZIEGLER — 479 Cyclic somatostatin analogs bind specifically to pI 6.1 carboxylesterase of rat liver cells

KRISTIAN T. HANSEN — 489 Hepatic uptake and biliary excretion of the neuroprotectant 2,3-dihydroxy-6-nitro-7-sulfamoyl-benzo-(F)-quinoxaline in rat liver. Involvement of an organic anion transport system

MICHELE CHIESI and ROLAND SCHWALLER — 495 Inhibition of constitutive endothelial NO-synthase activity by tannin and quercetin

LUISA BECEDAS and MARGOT BENGTSSON AHLBERG — 503 Hormonal influences of detoxication in the rat ovary on enzymes in comparison with the liver

ULRIKE HELLWICH and ROLF SCHUBERT — 511 Concentration-dependent binding of the chiral β-blocker oxprenolol to isoelectric or negatively charged unilamellar vesicles

STEVEN M. SEILER, MARIANNE PELUSO, INGE M. MICHEL, HAROLD GOLDENBERG, JOHN W. FENTON II, DOUGLAS RIEXINGER and SESHA NATARAJAN — 519 Inhibition of thrombin and SFLLR-peptide stimulation of platelet aggregation, phospholipase A_2 and Na^+/H^+ exchange by a thrombin receptor antagonist

YOSHIYA WATANABE, KEISUKE EDASHIGE, HIROTSUGU KOBUCHI, YOJI KATO, TATSUOMI MATSUOKA, TOSHIHIKO UTSUMI, TAMOTSU YOSHIOKA, ALAN A. HORTON and KOZO UTSUMI — 529 Photoactivated inhibition of superoxide generation and protein kinase C activity in neutrophils by blepharismin, a protozoan photodynamically active pigment

TAI-WING WU, KWOK-PUI FUNG, LING-HUA ZENG, JUN WU, ANDREW HEMPEL, ARTHUR A. GREY and NORMAN CAMERMAN — 537 Molecular properties and myocardial salvage effects of morin hydrate

CHEPPAIL RAMACHANDRAN, DANA MEAD, LARRY L. WELLHAM, ANTONIETA SAUERTEIG and AWTAR KRISHAN — 545 Expression of drug resistance-associated *mdr-1*, GST π, and topoisomerase II genes during cell cycle traverse

GIUSEPPE PIZZORNO, ZIRAN SUN and ROBERT E. HANDSCHUMACHER — 553 Aberrant cell cycle inhibition pattern in human colon carcinoma cell lines after exposure to 5-fluorouracil

GIUSEPPE PIZZORNO and ROBERT E. HANDSCHUMACHER — 559 Effect of clinically modeled regimens on the growth response and development of resistance in human colon carcinoma cell lines

MARY A. SMAL, ZHEN DONG, H. T. ANDREW CHEUNG, YASUHISA ASANO, LUC ESCOFFIER, MICHAEL COSTELLO and MARTIN H. N. TATTERSALL — 567 Activation and cytotoxicity of 2-α-aminoacyl prodrugs of methotrexate

Short Communication

MONICA EMANUELLI, NADIA RAFFAELLI, ADOLFO AMICI, ENRICO BALDUCCI, PAOLO NATALINI, SILVERIO RUGGIERI and GIULIO MAGNI — 575 The antitumor drug, 1,3-bis(2-chloroethyl)-1-nitrosourea, inactivates human nicotinamide mononucleotide adenylyltransferase

1 MARCH 1995

Commentary

ARIEH BOMZON and PREDRAG LJUBUNCIC — 581 Bile acids as endogenous vasodilators?

Research Papers

C. BENSOUSSAN, M. DELAFORGE, and D. MANSUY — 591 Particular ability of cytochromes P450 3A to form inhibitory P450–iron–metabolite complexes upon metabolic oxidation of aminodrugs

JOHANN HOFMANN, VOLKER GEKELER, WOLFGANG ISE, ANDREA NOLLER, JÖRG MITTERDORFER, SUSANNE HOFER, IRENE UTZ, MARKUS GOTWALD, RAINER BOER, HARTMUT GLOSSMANN and HANS H. GRUNICKE — 603 Mechanism of action of dexniguldipine-HCl (B8509–035), a new potent modulator of multidrug resistance

FRANÇOISE CAIRA, CORINNE PACOT, OLIVIER BARDOT, MUSTAPHA CHERKAOUI MALKI and NORBERT LATRUFFE — 611 Transcriptional and post-transcriptional analysis of peroxisomal protein encoding genes from rat treated with an hypolipemic agent, ciprofibrate. Effect of an intermittent treatment and influence of obesity

ROBERT GNIADECKI and JØRGEN SERUP — 621 Stimulation of epidermal proliferation in mice with 1α,25-dihydroxyvitamin D_3 and receptor-active 20-epi analogues of 1α,25-dihydroxyvitamin D_3

PENG-PENG P. ZHU TANG, MARTIN P. SCHWEIZER, KENNETH M. BRADSHAW and WILLIAM F. BAUER — 625 ^{11}B nuclear magnetic resonance studies of the interaction of borocaptate sodium with serum albumin

KO TSUIKI, DOROTEA MÜCK-ŠELER and MIRKO DIKSIC — 633 Autoradiographic evaluation of the influence of hypothalamic 5,7-dihydroxytryptamine lesion on brain serotonin synthesis

YASUFUMI NAGATA, MARI YONEMOTO, YOSHIKAZU IWASAWA, AKIKO SHIMIZU-NAGUMO, HIROMI HATTORI, YOSHIO SAWAZAKI and TOSHIO KAMEI — 643 *N*-[2-[*N'*-pentyl-(6,6-dimethyl-2,4-heptadiynyl)amino]ethyl]-(2-methyl-1-naphthylthio)acetamide (FY-087). A new acyl coenzyme A: cholesterol acyltransferase (ACAT) inhibitor of diet-induced atherosclerosis formation in mice

CATHERINE ASSELOT-CHAPEL, LYDIE COMBACAU, JACQUELINE LABAT-ROBERT and PATRICK KERN — 653 Expression of fibronectin and interstitial collagen genes in smooth muscle cells: modulation by low molecular weight heparin fragments and serum

PETER J. HOUGHTON, JANEK SOSINSKI, JAY H. THAKAR, GEORGE B. BODER and GERALD B. GRINDEY — 661 Characterization of the intracellular distribution and binding in human adenocarcinoma cells of *N*-(4-azidophenylsulfonyl)-*N'*-(4-chlorophenyl)urea (LY219703), a photoaffinity analogue of the antitumor diarylsulfonylurea sulofenur

LAKSHMAIAH SREERAMA, GANAGANUR K. REKHA and NORMAN E. SLADEK — 669 Phenolic antioxidant-induced overexpression of class-3 aldehyde dehydrogenase and oxazaphosphorine-specific resistance

JOEL E. WRIGHT, MARIA PARDO, UMER SAYEED-SHAH, WENDY ALPERIN and ANDRE ROSOWSKY — 677 Leucovorin and folic acid regimens for selective expansion of murine 5,10-methylenetetrahydrofolate pools

MARÍA INÉS FORRAY, MARÍA ESTELA ANDRÉS, GONZALO BUSTOS and KATIA GYSLING — 687 Regulation of endogenous noradrenaline release from the bed nucleus of stria terminalis

DENNIS C. MAYS, ALBERT N. NELSON, ABDUL H. FAUQ, ZACHARY H. SHRIVER, KAREN A. VEVERKA, STEPHEN NAYLOR and JAMES J. LIPSKY — 693 *S*-Methyl *N*,*N*-diethylthiocarbamate sulfone, a potential metabolite of disulfiram and potent inhibitor of low K_m mitochondrial aldehyde dehydrogenase

ALVIN TAUROG, MARTHA L. DORRIS, WEI-XIAO HU and FRANK S. GUZIEC, JR — 701 The selenium analog of 6-propylthiouracil. Measurement of its inhibitory effect on type I iodothyronine deiodinase and of its antithyroid activity

FRANCIS C. G. HOSKIN, JOHN E. WALKER, WOLF-D. DETTBARN and JAMES R. WILD — 711 Hydrolysis of tetriso by an enzyme derived from *Pseudomonas diminuta* as a model for the detoxication of *O*-ethyl *S*-(2-diisopropylaminoethyl) methylphosphonothiolate (VX)

HSUEH-YING L. YANG, MOSES J. NAMKUNG and MONT R. JUCHAU — 717 Expression of functional cytochrome P4501A1 in human embryonic hepatic tissues during organogenesis

BRUCE M. TUNE and CHIEH-YIN HSU — 727 Toxicity of cephalosporins to fatty acid metabolism in rabbit renal cortical mitochondria

Short Communications

KENJI NISHIOKA, NIHAL U. OBEYESEKERE and JOHN S. MCMURRAY — 735 Enhanced phagocytosis activity of cyclic analogs of tuftsin

MICHIO MATSUI, MIE TAKAHASHI, YUKO MIWA, YUKIKO MOTOYOSHI and HIROSHI HOMMA — 739 Structure–activity relationships of alkylamines that inhibit rat liver hydroxysteroid sulfotransferase activities *in vitro*

HIROSHI YAMASHITA, SHIGEO KITAYAMA, YU-XIANG ZHANG, TETSUYA TAKAHASHI, TOSHIHIRO DOHI and SHIGENOBU NAKAMURA — 742 Effect of nicotine on dopamine uptake in COS cells possessing the rat dopamine transporter and in PC12 cells

15 MARCH 1995

Commentary

JOHN M. VILE and PHILIP G. STRANGE — 747 High-affinity binding sites for neuroleptic drugs in human peripheral blood lymphocytes and their relation to dopamine receptors. A long-standing controversy

Research Papers

KERSTIN JÖNSSON, NITA DAHLBERG, ULF TIDEFELT, CHRISTER PAUL and GÖRAN ANDERSSON — 755 Characterization of an anthracycline-resistant human promyelocyte leukemia (HL-60) cell line with an elevated MDR-1 gene expression

HARUHIKO MACHIDA, YOHKO WATANABE, FUMITAKA KANO, SHINJI SAKATA, MASAO KUMAGAI and TOYOFUMI YAMAGUCHI — 763 Deglycosylation of antiherpesviral 5-substituted arabinosyluracil derivatives by rat liver extract and enterobacteria cells

LOUISE E. DONNELLY, ROBERT S. BOYD, ROBERT J. WILLIAMS, EAMONN KELLY and JOHN MACDERMOT — 767 Inhibition of ADP-ribosyltransferase increases synthesis of Gsα in neuroblastoma × glioma hybrid cells and reverses iloprost-dependent heterologous loss of fluoride-sensitive adenylate cyclase

WALID H. HAMOUDI, ZAFAR IQBAL and PAUL Y. SZE — 777 Acute and chronic actions of ethanol on endogenous calmodulin content in synaptic plasma membranes from rat brain

SLAVISA GASIC and ALLAN GREEN — 785 G_i down-regulation and heterologous desensitization in adipocytes after treatment with the α_2-agonist UK 14304

SIMON M. N. EFANGE, ROBERT H. MACH, CYNTHIA R. SMITH, ANIL B. KHARE, CATHERINE FOULON, SURYA K. AKELLA, STEVEN R. CHILDERS and STANLEY M. PARSONS — 791 Vesamicol analogues as sigma ligands. Molecular determinants of selectivity at the vesamicol receptor

DONALD G. ROBERTSON, BRIAN R. KRAUSE, DEVIN F. WELTY, GRUSHENKA H. I. WOLFGANG, MICHAEL J. GRAZIANO, GARY D. PILCHER and ELLEN URDA — 799 Hepatic microsomal induction profile of carbamic acid [[2,6-bis(1-methylethyl)phenoxy]sulfonyl]-2,6-bis(1-methylethyl) phenyl ester, monosodium salt (PD138142-15), a novel lipid regulating agent

DAN C. MARTIN, MARC PLAGENHOEF, JAMES ABRAHAM, ROBERT L. DENNISON and ROBERT S. ARONSTAM — 809 Volatile anesthetics and glutamate activation of *N*-methyl-D-aspartate receptors

L. CHONG and M. H. N. TATTERSALL — 819 5,10-Dideazatetrahydrofolic acid reduces toxicity and deoxyadenosine triphosphate pool expansion in cultured L1210 cells treated with inhibitors of thymidylate synthase

YVONNE TÖRNEVIK, BUDDY ULLMAN, JAN BALZARINI, BRITTA WAHREN and STAFFAN ERIKSSON — 829 Cytotoxicity of 3′-azido-3′-deoxythymidine correlates with 3′-azidothymidine-5′-monophosphate (AZTMP) levels, whereas anti-human immunodeficiency virus (HIV) activity correlates with 3′-azidothymidine-5′-triphosphate (AZTTP) levels in cultured CEM T-lymphoblastoid cells

LOUIS H. COHEN, ADRIANUS R. P. M. VALENTIJN, LOES ROODENBURG, RICK E. W. VAN LEEUWEN, R. HOLGER HUISMAN, ROBERT J. LUTZ, GIJS A. VAN DER MAREL and JACQUES H. VAN BOOM — 839 Different analogues of farnesyl pyrophosphate inhibit squalene synthase and protein:farnesyltransferase to different extents

Y. BENAZZOUG, D. LOGEART, J. LABAT-ROBERT, L. ROBERT, J. JOZEFONVICZ and P. KERN — 847 Derivatized dextrans modulate collagen synthesis in aortic smooth muscle cells

Short Communication

SUMNER H. BURSTEIN and SHEILA A. HUNTER — 855 Stimulation of anandamide biosynthesis in N-18TG2 neuroblastoma cells by Δ^9-tetrahydrocannabinol (THC)

30 MARCH 1995

Commentary

STANLEY KALSNER — 859 Coronary artery spasm. Multiple causes and multiple roles in heart disease

Research Papers

JACOB GEORGE, CHRISTOPHER LIDDLE, MICHAEL MURRAY, KAREN BYTH and GEOFFREY C. FARRELL — 873 Pre-translational regulation of cytochrome P450 genes is responsible for disease-specific changes of individual P450 enzymes among patients with cirrhosis

GRAEME L. FRASER and CHRISTOPHER J. FOWLER — 883 κ-Opioid receptor recognition sites are not modulated by local anaesthetics

LAHCEN IOUZALEN, MONIQUE DAVID-DUFILHO and MARIE-AUDE DEVYNCK — 893 Refilling state of internal Ca^{2+} stores is not the only intracellular signal stimulating Ca^{2+} influx in human endothelial cells

ASTRID HAGELÜKEN, LORE GRÜNBAUM, JAN F. KLINKER, BERND NÜRNBERG, RAINER HARHAMMER, GÜNTER SCHULTZ, CHRISTIAN LESCHKE, WALTER SCHUNACK and ROLAND SEIFERT — 901 Histamine receptor-dependent and/or -independent activation of guanine nucleotide-binding proteins by histamine and 2-substituted histamine derivatives in human leukemia (HL-60) and human erythroleukemia (HEL) cells

JEFFREY W. LAWRENCE, PATRICIA S. FOXWORTHY, DAVID N. PERRY, CHARLES B. JENSEN, DEBORAH D. GIERA, VINCENT P. MEADOR and PATRICK I. EACHO — 915 Nafenopin-induced peroxisome proliferation in vitamin A deficient rats

KARSTEN SCHRÖR, KAREN DAVIS-BRUNO and PERRY V. HALUSHKA — 921 Inhibition of ligand binding to thromboxane A_2/prostaglandin H_2 receptors by diethylpyrocarbonate. Protection by receptor ligands and reversal by hydroxylamine

RUIWEN ZHANG, ROBERT B. DIASIO, ZHIHONG LU, TIEPU LIU, ZHIWEI JIANG, WAYNE M. GALBRAITH and SUDHIR AGRAWAL — 929 Pharmacokinetics and tissue distribution in rats of an oligodeoxynucleotide phosphorothioate (GEM 91) developed as a therapeutic agent for human immunodeficiency virus type-1

ELSBETH G. CHIKHALE, PRASHANT J. CHIKHALE and RONALD T. BORCHARDT — 941 — Carrier-mediated transport of the antitumor agent acivicin across the blood–brain barrier

EMILY S. CLEAVELAND, ANNE MONKS, ANNE VAIGRO-WOLFF, DANIEL W. ZAHAREVITZ, KENNETH PAULL, KATHERINE ARDALAN, DAVID A. COONEY and HARRY FORD JR. — 947 — Site of action of two novel pyrimidine biosynthesis inhibitors accurately predicted by the COMPARE program

SHARON CHIAPPA, STEPHANIE PADILLA, CAROL KOENIGSBERGER, VIRGINIA MOSER and STEPHEN BRIMIJOIN — 955 — Slow accumulation of acetylcholinesterase in rat brain during enzyme inhibition by repeated dosing with chlorpyrifos

YUKIO YAMAMOTO, MAKIHIKO MASUDA, AKIO KAZUSAKA, SUSUMU IMAOKA, YOSHIHIKO FUNAE and SHOICHI FUJITA — 965 — Purification and characterization of a form of cytochrome P450 from bear liver microsomes

MIROSLAV STÝBLO and DAVID J. THOMAS — 971 — *In vitro* inhibition of glutathione reductase by arsenotriglutathione

ARON D. ROSS, GEORGE VARGHESE, BETZAVEL OPORTO, FREDERICK J. CARMICHAEL and YEDY ISRAEL — 979 — Effect of propylthiouracil treatment on NADPH-cytochrome P450 reductase levels, oxygen consumption and hydroxyl radical formation in liver microsomes from rats fed ethanol or acetone chronically

HIROYUKI YOKOYAMA, TOSHIHARU HORIE and SHOJI AWAZU — 991 — Oxidative stress in isolated rat hepatocytes during naproxen metabolism

RICHARD J. WEAVER, MAURICE DICKINS and M. DANNY BURKE — 997 — Hydroxylation of the antimalarial drug 58C80 by CYP2C9 in human liver microsomes: comparison with mephenytoin and tolbutamide hydroxylations

J. HAWLEY, P. C. RUBIN and S. J. HILL — 1005 — Distribution of receptors mediating phosphoinositide hydrolysis in cultured human umbilical artery smooth muscle and endothelial cells

DANIEL K. ASIEDU, ABRAHAM DEMOZ, JON SKORVE, HANS J. GRAV and ROLF K. BERGE — 1013 — Acute modulation of rat hepatic lipid metabolism by sulphur-substituted fatty acid analogues

18 APRIL 1995

Commentary

CHO Y. PANG and CHRISTOPHER R. FORREST — 1023 — Acute pharmacologic preconditioning as a new concept and alternative approach for prevention of skeletal muscle ischemic necrosis

Research Papers

IAN N. H. WHITE, FRANCESCO DE MATTEIS, ANTHONY H. GIBBS, CHANG KEE LIM, C. ROLAND WOLF, COLIN HENDERSON and LEWIS L. SMITH — 1035 — Species differences in the covalent binding of [^{14}C]tamoxifen to liver microsomes and the forms of cytochrome P450 involved

PETER N. COOK, WALTER H. J. WARD, J. MARK PETRASH, DONALD J. MIRRLEES, CHRISTOPHER M. SENNITT, FRANK CAREY, JOHN PRESTON, DAVID R. BRITTAIN, DAVID P. TUFFIN and RALPH HOWE — 1043 — Kinetic characteristics of ZENECA ZD5522, a potent inhibitor of human and bovine lens aldose reductase

KAZUSHI MINAMI, YASUSHI HIRATA, AKIRA TOKUMURA, YUTAKA NAKAYA and KENJI FUKUZAWA — 1051 Protein kinase C-independent inhibition of the Ca^{2+}-activated K^+ channel by angiotensin II and endothelin-1

HOWARD D. COLBY, BRIAN ABBOTT, MICHAEL CACHOVIC, KRISTINE M. DEBOLT and BRUCE A. MICO — 1057 Inactivation of adrenal cytochromes P450 by 1-aminobenzotriazole. Divergence of *in vivo* and *in vitro* actions

KOHFUKU KOHDA, NAOTO YAMAGAMI, TOSHIO KASAMATSU, TOYOHIKO AOYAMA and TAKAYUKI SHIOIRI — 1063 Wide difference between the cytotoxicity of the 11-α- and 11-β-cyano analogues of tilivalline and their epimeric conversion

JEFFREY A. MOSCOW, PATRICK G. JOHNSTON, DIANE COLE, DAVID G. POPLACK and KENNETH H. COWAN — 1069 Characterization of cross-resistance to methotrexate in a human breast cancer cell line selected for resistance to melphalan

CARROLL L. RAMOS, SOVITJ POU and GERALD M. ROSEN — 1079 Effect of anti-inflammatory drugs on myeloperoxidase-dependent hydroxyl radical generation by human neutrophils

LILY LIN, DONALD D. KOBLIN and HOWARD H. WANG — 1085 Effects of halothane on the nicotinic acetylcholine receptor from *Torpedo californica*

KIRSTEN C. KEMPE, HARRIET C. ISOM and FRANK E. GREENE — 1091 Responsiveness of an SV40-immortalized hepatocyte cell line to growth hormone

BERNICE YEUNG, PAUL VOUROS, MEI-LING SIU-CALDERA and G. SATYANARAYANA REDDY — 1099 Characterization of the metabolic pathway of 1,25-dihydroxy-16-ene vitamin D_3 in rat kidney by on-line high performance liquid chromatography–electrospray tandem mass spectrometry

XIN GUO, MARY LERNER-TUNG, HONG-XING CHEN, CHIEN-NENG CHANG, JU-LIANG ZHU, CHIA-PING CHANG, GIUSEPPE PIZZORNO, TAI-SHUN LIN and YUNG-CHI CHENG — 1111 5-Fluoro-2-pyrimidinone, a liver aldehyde oxidase-activated prodrug of 5-fluorouracil

CAROL A. CASEY, ROBERT L. WIEGERT and DEAN J. TUMA — 1117 Effect of hyperosmolarity on both receptor-mediated and fluid-phase endocytosis in ethanol-fed animals

YONG QIAN WU and PATRICK M. WOSTER — 1125 Irreversible inhibition of human *S*-adenosylmethionine decarboxylase by the pure diastereomeric forms of *S*-(5′-deoxy-5′-adenosyl)-1-ammonio-4-methylsulfonio-2-cyclopentene (AdoMac)

STELVIO M. BANDIERA, SZILVIA M. TOROK, SONG LIN, MALCOLM A. RAMSAY and ROSS J. NORSTROM — 1135 Catalytic and immunologic characterization of hepatic and lung cytochromes P450 in the polar bear

HYACINTH C. AKUNNE, STEVEN B. DEMATTOS, STEVEN Z. WHETZEL, DAVID J. WUSTROW, DUFF M. DAVIS, LAWRENCE D. WISE, WAYNE L. CODY, THOMAS A. PUGSLEY and THOMAS G. HEFFNER — 1147 Agonist properties of a stable hexapeptide analog of neurotensin, N^{α}MeArg-Lys-Pro-Trp-tLeu-Leu (NT1)

ANDREW W. NICHOLLS, STEPHEN CADDICK, IAN D. WILSON, R. DUNCAN FARRANT, JOHN C. LINDON and JEREMY K. NICHOLSON — 1155 High resolution NMR spectroscopic studies on the metabolism and futile deacetylation of 4-hydroxyacetanilide (paracetamol) in the rat

Short Communication

ABHIJIT MAZUMDER, KRISHNAMACHARI RAGHAVAN, JOHN WEINSTEIN, KURT W. KOHN and YVES POMMIER — 1165 Inhibition of human immunodeficiency virus type-1 integrase by curcumin

11 MAY 1995

Commentary

MORENO GALLENI, JOSETTE LAMOTTE-BRASSEUR, XAVIER RAQUET, ALAIN DUBUS, DIDIER MONNAIE, JAMES R. KNOX and JEAN-MARIE FRÈRE — 1171 The enigmatic catalytic mechanism of active-site serine β-lactamases

Research Papers

WINSTON A. MORGAN — 1179 Pyridine nucleotide hydrolysis and interconversion in rat hepatocytes during oxidative stress

KANNA K. GNANALINGHAM, A. JACKIE HUNTER, PETER JENNER and C. DAVID MARSDEN — 1185 Stimulation of adenylate cyclase activity by benzazepine D-1 dopamine agonists with varying efficacies in the 6-hydroxydopamine lesioned rat—relationship to circling behaviour

PAUL WARING, ALLAN SJAARDA and QING H. LIN — 1195 Gliotoxin inactivates alcohol dehydrogenase by either covalent modification or free radical damage mediated by redox cycling

HELEN M. COLEY, NATALIE BROOKS, DAVID H. PHILLIPS, ALAN HEWER, TERENCE C. JENKINS, MICHAEL JARMAN and IAN R. JUDSON — 1203 The role of the *N*-(hydroxymethyl)melamines as anti-tumour agents: mechanism of action studies

FUMIE HASHIMOTO, TAKESHI ISHIKAWA, SEIJI HAMADA and HIDENORI HAYASHI — 1213 Effect of gemfibrozil on lipid biosynthesis from acetyl-CoA derived from peroxisomal β-oxidation

RENATE LÜLLMANN-RAUCH, REBEKKA PODS and BURKHARD VON WITZENDORFF — 1223 Tilorone-induced lysosomal storage of sulphated glycosaminoglycans can be separated from tilorone-induced enhancement of lysosomal enzyme secretion

NICOLE H. P. CNUBBEN, JACQUES VERVOORT, MARELLE G. BOERSMA and IVONNE M. C. M. RIETJENS — 1235 The effect of varying halogen substituent patterns on the cytochrome P450 catalysed dehalogenation of 4-halogenated anilines to 4-aminophenol metabolites

DOMENICO LAPENNA, LUIGINA CELLINI, SERGIO DE GIOIA, ANDREA MEZZETTI, GIULIANO CIOFANI, DAVIDE FESTI and FRANCO CUCCURULLO — 1249 Cephalosporins are scavengers of hypochlorous acid

OLIVIER FARDEL, VALÉRIE LECUREUR, PASCAL LOYER and ANDRÉ GUILLOUZO — 1255 Rifampicin enhances anti-cancer drug accumulation and activity in multidrug-resistant cells

KLAUS STOLZE and HANS NOHL — 1261 Reactions of reducing xenobiotics with oxymyoglobin. Formation of metmyoglobin, ferryl myoglobin and free radicals: an electron spin resonance and chemiluminescence study

TIMOTHY S. TRACY, BRADY W. ROSENBLUTH, STEVEN A. WRIGHTON, FRANK J. GONZALEZ and KENNETH R. KORZEKWA — 1269 Role of cytochrome P450 2C9 and an allelic variant in the 4′-hydroxylation of (*R*)- and (*S*)-flurbiprofen

GEN-SHENG WANG and GENG-TAO LIU — 1277 Role of nitric oxide in immunological liver damage in mice

FRANÇOIS LETEURTRE, DAN L. SACKETT, JOSE MADALENGOITIA, GLENDA KOHLHAGEN, TIMOTHY MACDONALD, ERNEST HAMEL, KENNETH D. PAULL and YVES POMMIER — 1283 Azatoxin derivatives with potent and selective action on topoisomerase II

THERESA E. KITOS and DAVID L. J. TYRRELL — 1291 Intracellular metabolism of 2′,3′-dideoxynucleosides in duck hepatocyte primary cultures

W. MARSHALL ANDERSON and DIANE TRGOVCICH-ZACOK — 1303 Carbocyanine dyes with long alkyl side-chains: broad spectrum inhibitors of mitochondrial electron transport chain activity

CAROLYN A. CAMPEN, MUH-TSANN LAI, PAT KRAFT, TOM KIRCHNER, AUDREY PHILLIPS, DO WON HAHN and JEAN RIVIER 1313 Potent pituitary–gonadal axis suppression and extremely low anaphylactoid activity of a new gonadotropin releasing hormone (GnRH) receptor antagonist "azaline B"

PAUL W. HAGER, FRANK R. COLLART, ELIEZER HUBERMAN and BEVERLY S. MITCHELL 1323 Recombinant human inosine monophosphate dehydrogenase type I and type II proteins. Purification and characterization of inhibitor binding

Short Communications

YASUKO KOBAYASHI, HIROO MIYAZAWA, AKEMI SASANUMA and KAZUOKI KURATOMI 1331 Changes in activity levels and isozyme patterns of isoleucine aminotransferase in response to experimentally induced hepatic lesion

BENJAMIN J. ROBERTS, JOHN K. MACLEOD, INDERJIT SINGH and KATHLEEN M. KNIGHTS 1335 Kinetic characteristics of rat liver peroxisomal nafenopin-CoA ligase

17 MAY 1995

Commentary

BARRY HALLIWELL 1341 Antioxidant characterization. Methodology and mechanism

Research Papers

ELAINE HOLMES, STEPHEN CADDICK, JOHN C. LINDON, IAN D. WILSON, STEPHEN KRYVAWYCH and JEREMY K. NICHOLSON 1349 ^{1}H and ^{2}H NMR spectroscopic studies on the metabolism and biochemical effects of 2-bromoethanamine in the rat

TOSHIYA MINAGAWA, YOSHIRO KOHNO, TOSHIO SUWA and AKIRA TSUJI 1361 Species differences in hydrolysis of isocarbacyclin methyl ester (TEI-9090) by blood esterases

YIN LI, YUKIKO KOISO, HISAYOSHI KOBAYASHI, YUICHI HASHIMOTO and SHIGEO IWASAKI 1367 Ustiloxins, new antimitotic cyclic peptides: interaction with porcine brain tubulin

LEISE A. BERVEN and GREG J. BARRITT 1373 Evidence obtained using single hepatocytes for inhibition by the phospholipase C inhibitor U73122 of store-operated Ca^{2+} inflow

EMMA B. BORTHWICK, MICHAEL W. VOICE, ANN BURCHELL and MICHAEL W. H. COUGHTRIE 1381 Effects of hypophysectomy and thyroxine on the expression of hepatic oestrogen, hydroxysteroid and phenol sulphotransferases

MATTHEW J. LEE and DAVID DINSDALE 1387 The subcellular distribution of NADPH-cytochrome P450 reductase and isoenzymes of cytochrome P450 in the lungs of rats and mice

TAKASHI HORIGUCHI and SEIICHI TANIDA 1395 Rescue of *Schizosaccharomyces pombe* from camptothecin-mediated death by a DNA topoisomerase I inhibitor, TAN-1518 A

MARCELLINE TSOKO, FRÉDÉRIC BEAUSEIGNEUR, JOSEPH GRESTI, ISABELLE NIOT, JEAN DEMARQUOY, JACQUELINE BOICHOT, JEAN BEZARD, LUC ROCHETTE and PIERRE CLOUET 1403 Enhancement of activities relative to fatty acid oxidation in the liver of rats depleted of L-carnitine by D-carnitine and a γ-butyrobetaine hydroxylase inhibitor

GRAEME F. WILKINSON and MICHAEL R. BOARDER 1411 Binding of [^{35}S]adenosine 5′-*O*-(2-thiodiphosphate) to endothelial cells in culture

SITKI COPUR, KEISUKE AIBA, JAMES C. DRAKE, CARMEN J. ALLEGRA and EDWARD CHU 1419 Thymidylate synthase gene amplification in human colon cancer cell lines resistant to 5-fluorouracil

Scott R. Schlemmer and Francis M. Sirotnak	1427	Structural preferences among folate compounds and their analogues for ATPase-mediated efflux by inside-out plasma membrane vesicles derived from L1210 cells
Mark Salter, Robert Hazelwood, Christopher I. Pogson, Ramachandran Iyer and David J. Madge	1435	The effects of a novel and selective inhibitor of tryptophan 2,3-dioxygenase on tryptophan and serotonin metabolism in the rat
James P. McNamee, Susan M. Kimmett and Gerald S. Marks	1443	Inactivation of chick embryo hepatic cytochrome P450 1A, 2H and 3A following *in ovo* administration of 3,5-diethoxycarbonyl-1,4-dihydro-2,6-dimethyl-4-ethyl-pyridine and 3-[2-(2,4,6-trimethylphenyl)thioethyl]-4-methylsydnone
Hideyo Sato, Mineko Yamaguchi, Tadao Shibasaki, Tetsuro Ishii and Shiro Bannai	1453	Induction of stress proteins in mouse peritoneal macrophages by the anti-rheumatic agents gold sodium thiomalate and auranofin
Baldomero Lara, Pedro Zapater, Carmen Montiel, María Teresa de la Fuente, Rafael Martínez-Sierra, Juan José Ballesta, Luis Gandía and Antonio G. García	1459	Density of apamin-sensitive Ca^{2+}-dependent K^+ channels in bovine chromaffin cells: relevance to secretion
Anne Fischer-Nielsen, George B. Corcoran, Henrik E. Poulsen, Lisa M. Kamendulis and Steffen Loft	1469	Menadione-induced DNA fragmentation without 8-oxo-2′-deoxyguanosine formation in isolated rat hepatocytes
Harjit S. Minhas and Paul J. Thornalley	1475	Comparison of the delivery of reduced glutathione into $P388D_1$ cells by reduced glutathione and its mono- and diethyl ester derivatives
Wei Cai, Richardo Benitez, Raymond E. Counsell, Tanya Djanegara, David E. Schteingart, Joseph E. Sinsheimer and Linda L. Wotring	1483	Bovine adrenal cortex transformations of mitotane [1-(2-chlorophenyl)-1-(4-chlorophenyl)-2,2-dichloroethane; *o,p′*-DDD] and its *p,p′*- and *m,p′*-isomers
Christine M. Ireland and Sally M. Pittman	1491	Tubulin alterations in taxol-induced apoptosis parallel those observed with other drugs
Max H. Iltzsch, Sheri S. Uber, Kevin O. Tankersley and Mahmoud H. el Kouni	1501	Structure–activity relationship for the binding of nucleoside ligands to adenosine kinase from *Toxoplasma gondii*
Stephen G. Pacholok, Philip Davies, Conrad Dorn, Paul Finke, William A. Hanlon, Richard A. Mumford and John L. Humes	1513	Formation of polymorphonuclear leukocyte elastase:α_1 proteinase inhibitor complex and Aα (1–21) fibrinopeptide in human blood stimulated with the calcium ionophore A23187. A model to characterize inhibitors of polymorphonuclear leukocyte elastase
Micah Kerr, Annie Lee, Pao-Li Wang, Karnam R. Purushotham, Nasser Chegini, Hideo Yamamoto and Michael G. Humphreys-Beher	1521	Detection of insulin and insulin-like growth factors I and II in saliva and potential synthesis in the salivary glands of mice. Effects of type 1 diabetes mellitus
Pierre Girard, Richard Sercombe, Christine Sercombe, Gaël Le Lem, Jacques Seylaz and Pierre Potier	1533	A new synthetic flavonoid protects endothelium-derived relaxing factor-induced relaxation in rabbit arteries *in vitro*: evidence for superoxide scavenging

Short Communication

Toshimasa Ohnishi, Ikumi Tamai, Koji Sakanaka, Atsushi Sakata, Tetsumori Yamashima, Junkoh Yamashita and Akira Tsuji	1541	*In vivo* and *in vitro* evidence for ATP-dependency of P-glycoprotein-mediated efflux of doxorubicin at the blood–brain barrier

26 MAY 1995

Commentary

ALAN E. WAKELING — 1545 Use of pure antioestrogens to elucidate the mode of action of oestrogens

Rapid Communication

MARION MAN-YING CHAN — 1551 Inhibition of tumor necrosis factor by curcumin, a phytochemical

Research Papers

S. C. LEE and A. G. RENWICK — 1557 Sulphoxide reduction by rat and rabbit tissues *in vitro*

S. C. LEE and A. G. RENWICK — 1567 Sulphoxide reduction by rat intestinal flora and by *Escherichia coli in vitro*

KATARINA LE BLANC, JAN SAMUELSSON, JOHAN BROHULT, ANDERS BERG and JAN PALMBLAD — 1577 1-*O*-nexadecyl-2-metoxy-glycero-3-phosphatidylcholine—a methoxy ether lipid inhibiting platelet activating factor-induced platelet aggregation and neutrophil oxidative metabolism

J. NEUMANN, P. BOKNÍK, G. KASPAREIT, S. BARTEL, E.-G. KRAUSE, H. T. PASK, W. SCHMITZ and H. SCHOLZ — 1583 Effects of the phosphatase inhibitor calyculin A on the phosphorylation of C-protein in mammalian ventricular cardiomyocytes

GEORGE DELICONSTANTINOS, VASSILIKI VILLIOTOU and JOHN C. STAVRIDES — 1589 Modulation of particulate nitric oxide synthase activity and peroxynitrite synthesis in cholesterol enriched endothelial cell membranes

HARALD GSCHAIDMEIER, ALBRECHT SEIDEL, BRIAN BURCHELL and KARL WALTER BOCK — 1601 Formation of mono- and diglucuronides and other glycosides of benzo(*a*)pyrene-3,6-quinol by V79 cell-expressed human phenol UDP-glucuronosyltransferases of the UGT1 gene complex

KLAUS MÜLLER, PETER LEUKEL, KLAUS K. MAYER and WOLFGANG WIEGREBE — 1607 Modification of DNA bases by anthralin and related compounds

P. AGOSTINIS, A. VANDENBOGAERDE, A. DONELLA-DEANA, L. A. PINNA, K.-T. LEE, J. GORIS, W. MERLEVEDE, J. R. VANDENHEEDE and P. DE WITTE — 1615 Photosensitized inhibition of growth factor-regulated protein kinases by hypericin

DESONG CHEN and KAY HOON LEE — 1623 Antinociceptive activity of calcitonin and central cholinergic system: behavioural and neurochemical analyses

ROBERT A. HIRST and DAVID G. LAMBERT — 1633 Adenylyl cyclase in SH-SY5Y human neuroblastoma cells is regulated by intra- and extracellular calcium

RICHARD J. KNOX, FRANK FRIEDLOS, MICHAEL JARMAN, LAWRENCE C. DAVIES, PHYLLIS GODDARD, GILLIAN M. ANLEZARK, ROGER G. MELTON and ROGER F. SHERWOOD — 1641 Virtual cofactors for an *Escherichia coli* nitroreductase enzyme: relevance to reductively activated prodrugs in antibody directed enzyme prodrug therapy (ADEPT)

INDRANI MAITRA, LUCIA MARCOCCI, MARIE THERESE DROY-LEFAIX and LESTER PACKER — 1649 Peroxyl radical scavenging activity of *Ginkgo biloba* extract EGb 761

XIAOXIONG WEI, CHO-MING LOI, DOUGLAS L. SCHMUCKER and ROBERT E. VESTAL — 1657 Characterization of the independent and combined effects of two inhibitors on oxidative drug metabolism in rat liver microsomes

BENJAMIN JAMES ROBERTS, SUSAN ELIZABETH SHOAF and BYOUNG JOON SONG — 1665 Rapid changes in cytochrome P4502E1 (CYP2E1) activity and other P450 isozymes following ethanol withdrawal in rats

GREGORY J. DOWNING and ALAN M. POISNER — 1675 Stimulation of placental prorenin secretion by selective inhibition of cyclic nucleotide phosphodiesterases

PHILIP MARDER, J. SCOTT SAWYER, LARRY L. FROELICH, LARRY L. MANN and STEPHEN M. SPAETHE 1683 Blockade of human neutrophil activation by 2-[2-propyl-3-[3-[2-ethyl-4-(4-fluorophenyl)-5-hydroxyphenoxy]-propoxy]phenoxy]benzoic acid (LY293111), a novel leukotriene B_4 receptor antagonist

GUAN CHEN and DAVID J. WAXMAN 1691 Identification of glutathione *S*-transferase as a determinant of 4-hydroperoxycyclophosphamide resistance in human breast cancer cells

PARASAKTHY KUMARAVELU, DEEPALAKSHMI P. DAKSHINAMOORTHY, SHANTHI SUBRAMANIAM, HALAGOWDER DEVARAJ and NIRANJALI S. DEVARAJ 1703 Effect of eugenol on drug-metabolizing enzymes of carbon tetrachloride-intoxicated rat liver

Short Communications

J. CUMMINGS, A. J. MACLELLAN, S. P. LANGDON, D. A. JONES, E. ROZENGURT and J. F. SMYTH 1709 Processing of the neuropeptide growth factor antagonist [Arg^6, D-Trp^{7,9}, NmePhe^8]-substance P (6-11) by a small cell lung cancer cell line (H69)

BISWESWAR BANERJEE and DILIP K. GANGULY 1713 Thermodynamic studies with acetylthiocholine on nicotinic receptors of mammalian skeletal muscle *in vitro*

E. BENOIT, P. DELATOUR, L. OLIVIER and J. CALDWELL 1717 (−)-*R*-Fenoprofen: formation of fenoprofenyl-coenzyme A by rat liver microsomes

16 JUNE 1995

Commentary

THEODORE E. GRAM 1721 Metabolic activation and toxicity of some chemical agents to lung tissue and cells

Research Papers

MAGOTOSHI MORII, KIYOMI HAMATANI and NORIAKI TAKEGUCHI 1729 The proton pump inhibitor, E3810, binds to the N-terminal half of the α-subunit of gastric H^+, K^+-ATPase

RUOMEI QI, YUKIO OZAKI, KANEO SATOH, KENJI KUROTA, NAOKI ASAZUMA, YUTAKA YATOMI and SHOJI KUME 1735 Sulphonylurea agents inhibit platelet aggregation and $[Ca^{2+}]i$ elevation induced by arachidonic acid

ULRICH E. HONEGGER, ISABEL SCUNTARO and ULRICH N. WIESMANN 1741 Vitamin E reduces accumulation of amiodarone and desethylamiodarone and inhibits phospholipidosis in cultured human cells

IAN MEIKLE, JEFFREY CUMMINGS, JANET S. MACPHERSON, JOHN A. HADFIELD and JOHN F. SMYTH 1747 Biochemistry of topoisomerase I and II inhibition by anthracenyl-amino acid conjugates

A. WARD, M. J. SUMMERS and E. SIM 1759 Purification of recombinant human *N*-acetyltransferase type 1 (NAT1) expressed in *E. coli* and characterization of its potential role in folate metabolism

GIUSEPPINA DI STEFANO, CORRADO BUSI, ALESSANDRO MATTIOLI and LUIGI FIUME 1769 Selective delivery to the liver of antiviral nucleoside analogs coupled to a high molecular mass lactosaminated poly-L-lysine and administered to mice by intramuscular route

LUCIE FIRKUSNY, HEYO K. KROEMER and MICHEL EICHELBAUM 1777 *In vitro* characterization of cytochrome P450 catalysed metabolism of the antiemetic tropisetron

FRIEDRICH BRUNNER 1785 Dependence of endothelin-1 secretion on Ca^{2+}

RUTH-MARIA KORTH, MASAHIKO HIRAFUJI, JACQUES BENVENISTE and FRANCOISE RUSSO-MARIE 1793 Human umbilical vein endothelial cells: specific binding of platelet-activating factor and cytosolic calcium flux

YASUHIRO AKIYAMA, KUNIKO HARA, AKIRA MATSUMOTO, SUMIKO TAKAHASHI and TETSUYA TAJIMA 1801 Comparison of intestinal absorption of vitamin K_2 (menaquinone) homologues and their effects on blood coagulation in rats with hypoprothrombinaemia

Paul R. Tomlinson, John W. Wilson and Alastair G. Stewart	1809	Salbutamol inhibits the proliferation of human airway smooth muscle cells grown in culture: relationship to elevated cAMP levels
Roberta J. Ward, David Dexter, Anne Florence, Fouad Aouad, Robert Hider, Peter Jenner and Robert R. Crichton	1821	Brain iron in the ferrocene-loaded rat: its chelation and influence on dopamine metabolism
Manya T. McClure and Ieva Stupans	1827	Hormonal perturbation as a possible mechanism for the alteration of cytochrome P450 by cyclophosphamide
Colin M. Hill, Joseph Lunec, Helen R. Griffiths and Karl E. Herbert	1837	Characterization of tumour necrosis factor α release by human granulocytes in response to procainamide challenge
David R. Ferry, P. Joy Malkhandi, M. A. Russell and David J. Kerr	1851	Allosteric regulation of [^{3}H]vinblastine binding to P-glycoprotein of MCF-7 ADR cells by dexniguldipine

AUTHOR INDEX

Aasmundstad T. A., 453
Abbott B., 1057
Abraham J., 809
de Abreu R. A., 49
Agostinis P., 1615
Agrawal S., 929
Ahlberg M. B., 503
Aiba K., 1419
Aizawa T., 165
Akanmu D., 359
Akella S. K., 791
Akiyama Y., 1801
Akunne H. C., 1147
Al-Essa L. Y., 315
Alexander P., 367
Allegra C. J., 1419
Aloyo V. J., 17
Alperin W., 677
Amici A., 575
Anderson J. O., 173
Anderson W. M., 1303
Andersson G., 755
Andrés M. E., 687
Anlezark G. M., 1641
Antoine N., 351
Antoni F., 65
Aouad F., 1821
Aoyama T., 1063
Araujo F., 105
Archer S., 73
Ardalan K., 947
Aronstam R. S., 809
Aruoma O. I., 359
Asano Y., 567
Asazuma N., 1735
Asiedu D. K., 1013
Asselot-Chapel C., 653
August E. M., 203
Awazu S., 991

Bailie M. B., 197
Balducci E., 575
Ballesta J. J., 1459
Balwierczak J. L., 291
Balzarini J., 829
Bandiera S. M., 1135
Banerjee B., 1713
Bánhegyi G., 65
Bannai S., 1453
Baquero-Leonis D., 227
Bardot O., 611
Barritt G. J., 1373
Bartel S., 1583
Bauer W. F., 625
Beanum V. C., 115
Beauseigneur F., 1403
Becedas L., 503
Benazzoug Y., 847
Benchokroun Y., 305
Benitez R., 1483
Benoit E., 1717
Bensoussan C., 591
Benveniste J., 1793
Berg A., 1577
Berge R. K., 1013
Berven L. A., 1373
Bezard J., 1403
Bidlack J. M., 81
Bing B. A., 97
Bjørneboe A., 453
Blotman F., 243
Boarder M. R., 1411
Bock K. W., 1601
Boder G. B., 661
van Boom J. H., 839
Boer R., 603
Boersma M. G., 1235
Boichot J., 1403
Bökkerink J. P. M., 49
Bokník P., 1583
Bomzon A., 581
Bondy S. C., 69
Boobis A. R., 39
Borchardt R. T., 941
Borea P. A., 461
Borthwick E. B., 1381
Bourguignon J.-J., 399
Boyd M. R., 23
Boyd R. S., 767
Boyer C. S., 57
Bradshaw K. M., 625
Bretschneider E., 33
Brimijoin S., 955
Brittain D. R., 1043
Brohult J., 1577
Brooks N., 1203
Brunner F., 1785
Burchell A., 1381
Burchell B., 1601
Burczynski F. J., 91
Burke M. D., 997
Burstein S. H., 855
Busi C., 1769
Bustos G., 687
Buttin G., 329
Byington K. H., 119
Byth K., 873